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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,162	11/13/2001	Benjamin K. Jones	106566	6437

7590 10/18/2004  
OLIFF & BERRIDGE, PLC  
P.O. Box 19928  
Alexandria, VA 22320

EXAMINER
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KASSA, YOSEF

ART UNIT	PAPER NUMBER
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2625

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DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/987,162

Applicant(s)

JONES ET AL.

Examiner

YOSEF KASSA

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,12-14,16,17,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 4,7-11,15 and 18-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6, 12-14, 16, 17, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (U.S. Patent 6,517,486), and further in view of Isshiki et al (U.S. Patent 6,687,013).

With regard to claim 1, Li discloses a method usable to reduce displacement errors in an image-correlation-based (see col. 4, lines 33-40), comprising:

determining an estimate of an error amount, i.e., motion estimation, (see col. 4, line 17-23) corresponding to an uncompensated displacement value, i.e., original displacement value, the uncompensated displacement value representing a displacement between a reference image and a displaced image (best match pixel reads on displaced image) (see col. 4, lines 34-40), wherein the estimate of the error amount is represented in the image-correlation-based displacement measuring system (see col. 4, lines 27-34) in relation to a displacement relative to an unspecified reference image position, i.e., assigning best match pixel, (see col. 4, lines 35-42).

Li does not explicitly call for displacement measuring system. However, at the same field of endeavor, Isshiki et al taught this feature (see col. 4, lines 1-5). At the time

of the invention was made, it would have been obvious to a person ordinary skill in the art to incorporate the teaching of Isshiki et al displacement measuring system into Li's system. The motivation doing so is to provide a displacement measuring system.

With regard to claim 2, Li discloses generating the uncompensated displacement value based on a reference image and a displaced image (see col. 4, lines 34-42).

With regard to claim 3, Li discloses combining, i.e., compounding, the estimated error amount and the uncompensated displacement value to determine a compensated displacement between the reference image and the displaced image (see col. 3, lines 39-41 and lines 49-56).

With regard to claim 5, Li is silent about discloses the estimate of the error amount is represented in a form comprising a look-up table, i.e., storage. However, at the same field of endeavor, Isshiki et al taught this feature (see col. 4, lines 1-12). At the time of the invention was made, it would have been obvious to a person ordinary skill in the art to incorporate the teaching of Isshiki et al error signal storing process into Li's system. The motivation doing so is to provide a storage system for storing measured displacement error information.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (U.S. Patent 6,517,486), Isshiki et al (U.S. Patent 6,687,013), and further in view of Nakaya et al (U.S. Patent 6,134,271).

With regard to claim 6, Li is silent about the estimate of the error amount is represented in a form comprising a value based on interpolation between values

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represented in the look-up table. However, at the same field of endeavor, Nakaya et al taught this feature (see col. 2, lines 50-61). At the time of the invention was made, it would have been obvious to a person ordinary skill in the art to incorporate the teaching of Nakaya et al an interpolation system into Li's system. The motivation doing so is to provide an interpolation system to interpolate points into the image.

Claim 12 is similarly analyzed as claim 1, except claim 12 is an apparatus claim.

Claims 13 and 14 are similarly analyzed as claims 2 and 3.

Claims 16 and 17 are similarly analyzed as claims 5 and 6.

With regard to claim 23, Li is silent about a computer readable medium and wherein the module is control program stored on the computer readable medium. However, at the same field of endeavor, Nakaya et al taught this feature (see col. 10, lines 8-15). At the time of the invention was made, it would have been obvious to a person ordinary skill in the art to incorporate the teaching of Nakaya et al computer system into Li's system. The motivation doing so is to provide computer readable medium and control program storage system.

Claim 24 is similarly analyzed as claim 1, except, the additional limitation of "a carrier wave encoded (see Fig. 5, encoder) to transmit a control program to a device capable of executing the control program", Li and Isshiki et al did not disclose this feature. However, at the same field of endeavor, Nakaya et al taught this feature (see col. 10, lines 15-19). At the time of the invention was made, it would have been obvious to a person ordinary skill in the art to incorporate the teaching of Nakaya et al encoded

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data transmitting process into Li's system. The motivation doing so is to provide a process of transmitting motion estimation information to receiving end.

***Allowable Subject Mater***

Claims 4, 7-11, 15 and 18-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other Prior Art Cited***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (6,385,245) to De Haan et al discloses motion estimation and motion-compensated interpolation.

US Patent No. (5,608,453) to Gerber et al discloses automatic optical inspection system...

US Patent No. (5,793,430) to Hackett et al discloses method and apparatus for correction motion vectors.

US Patent No. (5,754,226) to Yamada et al disclose imaging apparatus for obtaining a high-resolution image.

US Patent No. (5,610,823) to Martin discloses method for spindle speed optimization of motion profile.

***Conclusion***

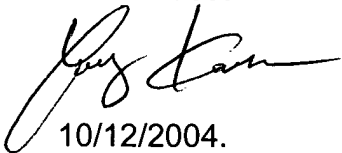
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (703) 306-5918. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on (703) 308-5246. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314 for regular communication and (703) 872-9314 for after Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

**PATENT EXAMINER**

Yosef Kassa



10/12/2004.